REMARKS:

In the foregoing amendments, claim 6 was amended to further define that the laser beam is a focused laser beam, which was set forth in previously presented claim 8. Claim 6 was amended to define that the laser beam directly irradiates the welding object portion. Claim 7 was amended to define that the filler wire is supplied only from backward of the laser. Claim 8 was amended to further define that the filler wire is supplied independently from the laser beam. Claim 9 was amended by deleting the word "substantially" thereby defining that the laser beam is supplied in a direction perpendicular to a welding advance direction. Claim 10 was amended to define that the laser beam is weaved in a sinusoidal pattern relative to a direction substantially perpendicular to a welding advance direction. Claim 12 was rewritten as an independent claim. Claim 13 was added to the application which defines that the laser beam irradiates the welding object portion without the use of an optical fiber. Accordingly, claims 6-13 are in the application for consideration by the examiner.

Applicants desire to express their thanks to examiner Jonathan J. Johnson for the courtesies extended to the undersigned in telephone interviews on October 24 and 27, 2003. During these telephone interviews, the prior art rejection of applicant's claims was discussed, together with proposed amendments to the claims. The examiner indicated that amending claim 10 by including that the weaving is "sinusoidal" had an increased chance of

patentability. Other amendments to the claims were discussed, but no agreement was reached.

The Official action mailed July 2, 2003, set forth a rejection of claims 6-12 under 35 U.S.C. § 102(b) as being anticipated by U.S. patent No. 5,714,735 of Offer. With respect to claim 6, the Official action stated that Offer teaches a laser welding method for supplying a filler wire to a welding object portion while projecting laser beams to the welded object portion (Fig. 3b, Item 26d and 26e), wherein the filler wire is supplied obliquely from forward or backward in a welding advance direction such that an angle between the supplying direction and the beam axis of the laser beam 2 is less than 45 degrees (Column 8, lines 30-55).

Applicant respectfully submits that this characterization of the teachings of Offer is improper and that the teachings of Offer cannot contemplate or suggest the invention as set forth in claim 6, as well as that set forth in claims 7-13, for the reasons set forth below. Considering claim 6, this claim requires, *inter alia,* welding the welding object portion by <u>immediate</u> physical irradiation of the welding object portion <u>directly</u> by a focused laser beam from the laser source, where the filler wire is supplied obliquely from forward or backward in a welding advance direction. In the device shown in Fig. 3B of Offer and the accompanying disclosure at column 10, lines 19-28, it is discussed that optional ports 26d and 26e of the monolithic nozzle 12C can also be used to deliver the main source or an auxiliary heating source for the joining process,

such as laser light passing through fiber optics in the nozzle. However, the teachings of Offer never describe how the device shown in Fig. 3B is arranged in conjunction with a welding method. The teachings of Offer are especially silent concerning the orientation of the alleged use of optical fibers with laser input, which are not shown in Fig. 3B relative to a welding direction. Therefore, it is impossible for the teachings of Offer to suggest the arrangement required in the present claims.

Assuming for argument, that the device shown in Fig. 3B of Offer was used together with the assembly shown in Fig. 2 of Offer, this device would require that the filler wire, allegedly from 26e, 26b, and 26c, is supplied from a middle direction or between the light projected from the optical fibers 26d and 26e. Alternatively, since the device shown in Fig. 3B of Offer includes two optical fibers, where one appears to be in front of and other behind the alleged welding, these teachings cannot contemplate or suggest a system where the filler wire is supplied obliquely from one of a forward or backward in a welding advance direction, as required in the present claims. In other words, in the presently claimed invention, the filler wire can be obliquely supplied singly or independently from either the forward or backward direction, so that an improved weld can be obtained. This can overcome the preliminary welded portion 11 as shown in Fig. 1, or a stepped portion 12 as shown in Fig. 7, etc. Since the teachings of Offer require light from optical fibers in front of and behind the welding direction, these teachings cannot contemplate or suggest

the option of forward or backward supplying the filler wire obliquely, as required in the presently claimed invention.

More importantly, applicant's claims require that the welding object portion is welded by immediate physical irradiation of the welding object portions directly by a focused laser beam from a laser source. The teachings of Offer do not remotely contemplate or suggest and, in fact, are opposite to this arrangement of applicant's claims because these teachings require light from optical fibers. Further, light emitting from an optical fiber is not focused, which is contrast to applicant's claim 6.

For these foregoing reasons, applicant respectfully submits that it is impossible from the teachings of Offer to contemplate or suggest the invention as set forth in applicant's claims.

With respect to claim 7, the Official action refers to Fig. 3b, item 26d or 26e. However, Offer never discusses the alternative use of 26d or 26e. Offer proposes these are both used together. Therefore, Offer cannot contemplate or suggest that the filler wire is only supplied from backward of the laser beam with respect to the welding advance direction, as required in claim 7.

With respect to claim 8, the Official action stated that Offer teaches that the laser beam is a focused laser beam at column 10, lines 19-30. Applicant respectfully submits that his position is an error and, in fact, is impossible within the teachings of Offer. It is respectfully noted that the portion of Offer proposed by the examiner explains that the arrangement of the use of an

optical fiber eliminates need for space-taking objective lenses at the end of the fiber, which are necessary to focus the beam. One of ordinary skill in the art reading this portion of Offer and having the skill of the ordinary artisan would realize that light emitting from an optical fiber is not focused. Therefore, it is impossible for the teachings of Offer to contemplate or suggest a focused laser beam for welding or any process steps relative thereto.

With respect to claim 9, the Official action stated that Offer teaches that the laser beam is supplied in a direction substantially perpendicular to a welding advance direction, noting Fig. 4, item 4. Applicant's claim 9 requires a focused laser beam for welding. Fig. 4 in Offer does not explain the use or contemplate the use of a laser or optical beams in connection with Fig. 4. Thus, the Fig. 4 of Offer is not relevant to applicant's claimed invention. Furthermore, there is no showing or suggestion in Offer concerning a laser beam supplied in a direction perpendicular to the welding advance direction, as required in claim 9. Therefore, applicant respectfully submits that the teachings of Offer cannot suggest the invention of present claim 9.

With respect to claim 10, applicant cannot find any weaving or discussion concerning weaving a welder laser beam as required in this claim within the teachings of Offer. Claim 10 was amended above to require that the weaving is sinusoidal, which further distinguishes the claimed invention from the teachings of Offer. With respect to claim 11, applicant respectfully submits

that this claim is distinguishable from the teachings of Offer for the same reasons as set forth above for claim 7.

With respect to claim 12, the Official action stated that the teachings of Offer teach a laser welding method having the relationship set forth in applicant's claims. However, applicant cannot find such a teaching in Offer. While the Official action referred to Fig. 4, item 4, of Offer, it is respectfully noted that this figure has nothing to do with a laser beam and, therefore, is not pertinent to the presently claimed invention.

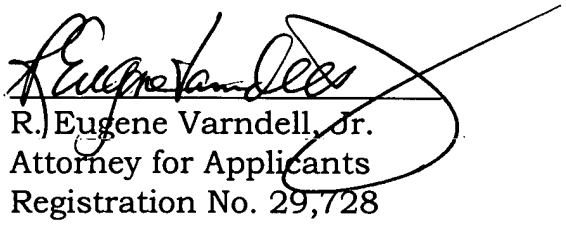
New claim 13 specifically states that the laser beam irradiates the welding object portion without the use of an optical fiber. Since the teachings of Offer propose the use of an optical fiber, these teachings cannot contemplate or suggest the invention as set forth in applicant's claims, especially that as set forth in applicant's claim 13.

In view of the foregoing amendments and remarks, applicant respectfully submits that claims 6-13 are patentably distinguishable from the teachings of Offer. Therefore, applicant respectfully requests that the examiner reconsider and withdraw the rejection of the claims over these teachings.

For the foregoing reasons, applicant respectfully requests a formal allowance of claims 6-13. While it is believed that all the claims in the application are in condition for allowance, should the examiner have any comments or questions, it is respectfully requested that the undersigned be telephoned at the below listed number to resolve any outstanding issues.

In the event this paper or the RCE filed together here with is not timely filed, applicants hereby petition for an appropriate extension of time. The fee therefor, as well as any other fees which become due, may be charged to our deposit account No. 22-0256.

Respectfully submitted,
VARNDELL & VARNDELL, PLLC
(Formerly Varndell Legal Group)



R. Eugene Varndell, Jr.
Attorney for Applicants
Registration No. 29,728

Atty. Case No. VX022408
106-A S. Columbus St.
Alexandria, VA 22314
(703) 683-9730
\\V:\VDOCS\W_DOCS\OCT03\P0-152-2408 PA.DOC